REMARKS

Applicants submit this reply in response to the non-final Office Action mailed January 26, 2007, the period for response being extended through Tuesday, May 29, 2007 (with May 26, 2007, falling on a Saturday and Monday, May 28, being a U.S. federal holiday), with the concurrent filing of a petition for a one-month extension of time and payment of the requisite fee. Before this amendment, claims 11-20 were pending, of which claims 11 and 20 were independent. In this response, Applicants have amended claim 11, 13-15, 17, 18, and 20, canceled claim 12 without prejudice or disclaimer, and added new claims 21-30. Accordingly, claims 11 and 13-30 are currently pending, of which claims 11 and 20 are independent.

In the non-final Office Action, the Examiner objected to claims 13-18 for containing minor informalities. The Examiner rejected claims 11, 12, 19, and 20 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,285,810 ("Fincato et al."). The Examiner rejected claims 13-18 under 35 U.S.C. § 103(a) as being unpatentable over Fincato et al. Applicants respectfully traverse all pending objections and rejections and request reconsideration of the application, as presently amended.

Claim Objections

The Examiner objected to claims 13-18 because the claimed variable "N" was not explicitly defined. *See* non-final Office Action, p. 2 ("note that 'N' is not defined in the claim. Appropriate correction is required.") In response, Applicants have amended these objected-to claims to further recite, among other things, "wherein N is an integer number." *See, e.g.,* amended claims 13 and 14. In view of these amendments, Applicants respectfully submit that the claimed variable "N" is now defined as an integer number and, therefore, the pending claim objections should be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected claims 13-18 under 35 U.S.C. § 103(a) as being unpatentable over Fincato et al. because "It is not clear what is 'N' in the claim 13, therefore, this is rejected under 103 over Fincato et al reference." Non-final Office Action, p. 4. As noted above, Applicants have amended claims 13 and 14 to recite, among other things, "wherein N is an integer number." Because the claimed variable "N" is now explicitly defined in the amended claims, Applicants submit that the Examiner's basis for the Section 103 rejections has been overcome.

Rejections Under 35 U.S.C. § 102(e)

The Examiner rejected claims 11, 12, 19, and 20 under 35 U.S.C. § 102(e) as being anticipated by Fincato et al.. In order to properly establish an anticipation rejection under Section 102, every element of the claims at issue must be found in the applied prior-art reference, either expressly or under principles of inherency. Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *See* M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). In this case, Fincato et al. fails to teach or suggest every element of the Applicants' claimed invention, as discussed below.

Fincato et al. discloses a "[t]unable add/drop optical device for injecting or extracting (add/drop) at least a selected optical channel or carrier wavelength in or from a set of multiplexed channels or carriers of different wavelengths." Fincato et al., Abstract. The add/drop device in Fincato et al. is constructed having "a plurality of directional couplers alternately connected in cascade with a plurality of phase-shift

stages." *Id.*, col. 6, ll. 19-20. To that end, the add/drop device comprises a plurality of cascaded cells, where "each cell of the device is composed of a phase shift stage SF and a directional coupler AD." *Id.*, col. 12, ll. 9-11; FIG. 12 (showing a single cell of the add/drop device); FIG. 2 (showing multiple cascaded cells). "Tuning elements S (in electrical parallel arrangement)... tune the add/drop device on a selected channel to be extracted (λi) and injected (λi*)." *Id.*, col. 8, ll. 10-14; FIGS. 5 and 10 (showing tuning elements S in the add/drop device).

In contrast to Applicants' amended claims 11 and 20, Fincato et al. fails to teach or suggest at least "first and second 3-dB optical coupling regions" or "forming two pluralities of half-power optical signals from said plurality of input optical signals [and] ... recombining the two pluralities of half-power optical signals." While Fincato et al. generally discloses a tunable add/drop device comprising directional couplers AD (*see id.*, FIGS. 10 and 12), Fincato et al. appears to be completely silent regarding the amount of signal power that is coupled within each coupler.[1] In other words, there appears to be no indication in Fincato et al. regarding whether the directional couplers AD contain "3-dB optical coupling regions" or form and recombine "two pluralities of half-power optical signals," i.e., couple half (i.e., 3 dB) of the signal power from one optical path to another. Indeed, the amount of power coupled by the directional couplers in Fincato et al. does not appear to be a design consideration at all.

[1] FIG. 20 shows a "2:1 coupler" that receives two optical signals (λ1 and λ*5) at input ports P5 and P6 and couples these optical signals onto a single output port P8. *See also* Fincato et al., col. 17, ll. 14-16. Obviously, the 2:1 coupler ratio in this figure corresponds to the ratio of input and output ports and not to the amount of power coupled within the 2:1 coupler. *See also id.*, FIG 20 (1:2 WDM identifying the ratio of the number of input ports to output ports).

Rather than specify the amount of power coupled in the directional couplers, Fincato et al. instead discloses optimizing the frequency response of the couplers to have "practically negligible consequence in terms of increasing the ripple of the passband characteristic." *Id.*, col. 13, ll. 66-67; *see also id.*, col. 5, l. 66 to col. 6, l. 4. More specifically:

> The characteristics of the k+1 directional couplers (AD) are then optimized in function of the relative coefficients of the terms of the Fourier expansion series in order to improve the selectivity of the filter. Such an optimization, which is different from what occurs when employing a tapered distribution or a Chebychev distribution as in prior art approaches, has a practically negligible consequence in terms of increasing the ripple of the passband characteristic.

Id., col. 13, ll. 60-67. Because Fincato et al. teaches optimization of frequency characteristics for the directional couplers AD, without any further teaching or suggestion regarding the amount of signal power that is coupled within their coupling regions, Applicants submit that a fair and proper reading of Fincato et al. cannot reasonably anticipate "first and second 3-dB coupling regions," as recited in amended claim 11, or "forming two pluralities of half-power optical signals from said plurality of input optical signals [and] ... recombining the two pluralities of half-power optical signals," as recited in amended claim 20.

In addition, the tunable add/drop device in Fincato et al. is simply that—a device that adds or drops selected carriers in a wavelength division multiplexed ("WDM") signal. *See id.*, Abstract; col. 6, ll. 16-44. Fincato et al. does not appear to provide any additional disclosure of the tunable add/drop device "being configured for acting as a selective switch exchanger for exchanging between one interferometric arm and the other at least one of a plurality of optical signals S(λ1), S(λ2), ..., S(λn), received at its input ports" or "exchanging between one interferometric arm to the other interferometric

arm the two half-power optical signals that are centered on at least one of said plurality of central wavelengths," as recited in amended claims 11 and 20, respectively. In fact, there appears to be an absence of any teaching or suggestion that the tunable add/drop device in Fincato et al. can be configured having a switching function that transfers selected optical signals from one optical path to the another, without also having to add or drop specific carriers in the WDM signal.

For at least the foregoing reasons, Applicants respectfully submit that independent claims 11 and 20, as amended, are allowable over the art of record. Claims 13-19 and 21-30 depend on independent claims 11 or 20 and are therefore allowable for at least the same reasons.

Conclusion

The preceding remarks are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the preceding remarks in favor of patentability are advanced without prejudice to other bases of patentability.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: _____

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